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Cooperative Economic Insect Report

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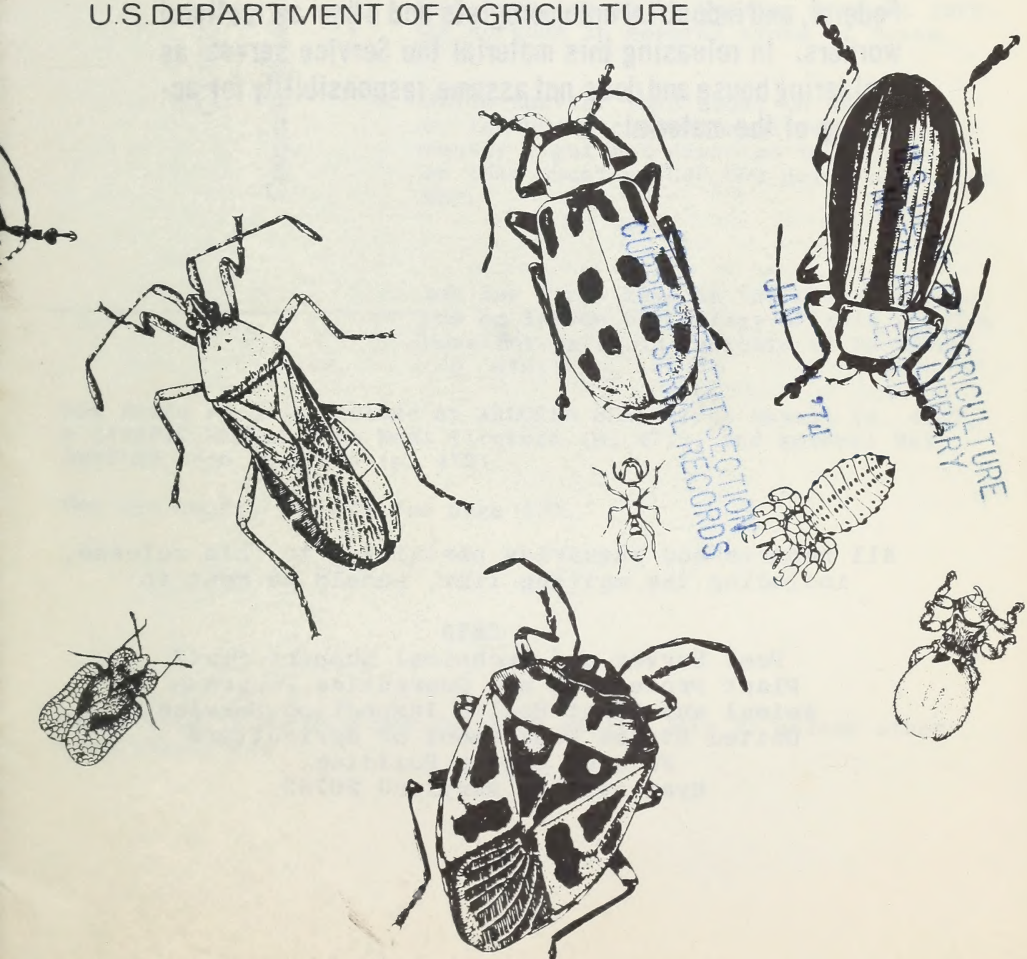

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The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 23 July 20, 1973 Number 29

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN LEAF APHID and GREENBUG increased on sorghum in central area of Nation but infestations still generally noneconomic. POTATO LEAFHOPPER damaged or yellowed alfalfa in Missouri, Wisconsin, and Ohio; noneconomic in soybeans and alfalfa in Virginia and Maryland. TOBACCO BUDWORM damage to tobacco in Maryland heaviest in past 5 years. TOBACCO HORNWORM damaged tobacco in Kentucky. (pp. 459-461).

EUROPEAN CORN BORER infestations generally light in corn-growing areas, with some heavy infestations reported. Second-brood larvae active on Eastern Shore of Maryland, expected to increase rapidly. (pp. 462-463). European corn borer damage to spring potatoes on Eastern Shore of Virginia heaviest of past 10 years. (p. 466).

CORN ROOTWORMS damaged corn in several areas; adults emerged in north-central Kansas, northern Missouri. NORTHERN CORN ROOTWORM damage to corn in New Jersey expected to be heavier than in 1972. SORGHUM MIDGE damaged grain sorghum in several areas of Texas. (pp. 463-464).

SPOTTED CUCUMBER BEETLE adults heavier than usual on several crops in western Tennessee, including cotton; some feeding on squares noted, damage currently light but expected to increase. TARNISHED PLANT BUG heavier than usual on 500,000 acres of cotton throughout Alabama. (p. 466).

Detection

- A CLICK BEETLE reported for first time in the United States. The lack of information on larvae or biology of this species which occurs in southern Europe would indicate it is of no economic importance. (p. 472).

New State records include an ARMORED SCALE from Hawaii (p. 473), a CARABID BEETLE from West Virginia (p. 471), and several MAY BEETLES from Maryland (p. 472).

For new county records see page 472.

Reports in this issue are for week ending July 13 unless otherwise indicated.

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NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

MID-JULY TO MID-AUGUST 1973

The National Weather Service's 30-day outlook for mid-July to mid-August is for temperatures to average below seasonal normals from the Continental Divide to the Appalachian Mountains. Above normal temperatures are indicated for most areas west of the Divide and for New England. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed normal over the central and southern Great Plains, the middle Mississippi Valley, and New England. Subnormal totals are indicated west of the Divide and in portions of the south Atlantic Coast States. Elsewhere near normal amounts are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

ARMYWORM (Pseudaletia unipuncta) - IOWA - Fed on corn in Clinton, Dubuque, Clayton, Cerro Gordo, and Benton Counties. Infestations ranged moderate to severe with 4-6 larvae per plant. Some treatments applied. Larvae heavy on lawns at Ames, Story County. (Iowa Ins. Sur.). ILLINOIS - Six larvae found in 10 one-square-foot sample plots in lawns in Livingston and La Salle Counties. (Ill. Ins. Rpt.). MICHIGAN - Infestation found July 10 in field of relatively poor 10 to 30-inch corn planted in sod in Newaygo County; damage heavy. Larvae appeared in scattered spots in other cornfields in area. (Rushmore). MINNESOTA - Light trap catches decreased in all areas except at Crookston, Polk County, where small increase noted. Larval infestations reported in grassy areas in Wright County, but none in cropland. Larvae infested 100 percent of sweet corn in Wabasha County field. (Minn. Pest Rpt.).

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - Ranged 1-5 per 100 sweeps of sugar beets in Otero and Prowers Counties and 0-100 per 100 sweeps in tomatoes in Pueblo, Crowley, and Otero Counties. (Schweissing).

CORN EARWORM (Heliothis zea) - TEXAS - Increased populations damaged some sorghum in Frost and Dawson areas of Navarro County. Infested grain sorghum in most north-central area counties. Light activity noted in San Angelo area near Abilene, Tom Green County. (Hoelscher et al.). OKLAHOMA - Damaged 100 percent of ears of home garden corn checked in Mayes County. Heavy in home garden corn in Tulsa and Marshall Counties. Averaged 1 per 20 plants in tassels of field corn in Texas County. (Okla. Coop. Sur.). KANSAS - Light in whorls of corn and sorghum over much of eastern two-thirds of State; nearly all pupated north to State line.(Bell). NEBRASKA - Larvae damaged occasional corn plants in 282 fields surveyed in Clay County. (Gary). MICHIGAN - Single male collected in blacklight trap at Shelby, Oceana County, night of July 8; earlier than usual. Normal first appearance about August 20. Sweet corn growers should check fields closely, treat if necessary. (Cress).

MARYLAND - H. zea moths in light traps averaged one per week in Wicomico and St. Marys Counties. Larval activity underway and expected to increase rapidly next 15 days throughout State. (U. Md., Ent. Dept.). VIRGINIA - Severe larval infestation noted in Warren County cornfield July 3. (Weddle). TENNESSEE - Larvae light and localized in whorls of late-planted corn. Neither damage nor population size currently sufficient to warrant controls. (Gordon).

CORN LEAF APHID (Rhopalosiphum maidis) - MARYLAND - First infestations of season found in field corn in Dorchester County. Populations light and restricted to lower half of plants. Ranged 50-100 per plant in about 100 acres. (U. Md., Ent. Dept.). OHIO - Heavily infested 40-50 percent of 6-foot tall corn and 30 percent of sweet corn examined in Pickaway County. Populations on individual plants blanketed surface of developing tassels. (Fox). ILLINOIS - Moderate in corn in several central and west-southwest counties. Average percent infestation by county: Logan 30, Mason 35, Woodford 30, Cass 40, Christian 45, Morgan 20, Sangamon 30. Counts ranged 1-300+ per infested plant (average 17) in these 7 counties. (Ill. Ins. Rpt.). WISCONSIN - Increased steadily; infestations spotty and only trace numbers noted. No significant infestation noted. (Wis. Ins.

Sur.). NEBRASKA - Rhopalosiphum maidis increased in grain sorghum. Ranged 0-1,000 (average 51.2) per plant in 234 Clay County fields surveyed. Most heavily infested field averaged 750 per plant, but damage negligible. (Gary). Averaged about 100 per plant in one Thayer County field, no visible damage. (Peters). KANSAS - Generally light to moderate in whorls of sorghum throughout State. Heavy in scattered whorls in some fields in northeast and east-central districts; in such fields lady beetles, particularly Hippodamia convergens (convergent lady beetle), very active. (Bell). OKLAHOMA - Ranged 50-100 per plant on sorghum in Jackson County, up to 300 per plant in Ottawa County, and up to 4 per plant in Craig County. Moderate in Pawnee County and heavy in Hughes County. (Okla. Coop. Sur.). TEXAS - Large numbers noted in sorghum fields in many South and High Plains Counties, but populations apparently decreasing. No economic damage noted. Decreased greatly in most fields in Hale County due to predation and parasitism. (Clymer et al.). ARIZONA - Ranged 5-200 per 5 to 24-inch sorghum plant at Sulfur Springs Valley, Cochise County. (Ariz. Coop. Sur.).

GREENBUG (Schizaphis graminum) - TEXAS - Continued light on sorghum throughout South and High Plains areas. Continued to build up in most fields in Hale County. Ranged from 2-3 per plant in some small sorghum to 500 per plant in some fields of early sorghum. Only 2 fields out of 18,000 acres checked in Hale County area needed control to date. Increased in Potter County area. Light in most fields in Pecos and Reeves Counties. Field counts averaged less than 10 per leaf on bottom 4 leaves of plants. Light in Glasscock County with isolated fields having moderate counts; field populations ranged 1-10 per leaf with few plants having up to 100-200 per leaf on bottom 4 leaves. (Latham et al.). OKLAHOMA - Ranged 0-25 per plant in 24-inch sorghum in Craig County and 0-10 per plant in 18-inch sorghum in Ottawa County. Averaged less than 2 per plant in all fields surveyed in Texas County. (Okla Coop. Sur.).

KANSAS - S. graminum infestations (nearly all noneconomic) in western area increased at significant rate particularly in sorghum in west-central and northwest districts. Up to 1,000 per plant found in 10 to 12-inch sorghum with significant foliar damage but generally ranged 30-40 per plant. Large numbers of winged greenbugs flying to late-planted field of 4-inch sorghum in Washington County. In this field, winged forms averaged 8 per plant and, including young, population averaged 20 per plant. Throughout remainder of eastern two-thirds of State, populations in sorghum generally light. (Bell). COLORADO - Ranged 0-15 on 30 percent of sorghum plants in southeastern area, except in Big Bend area of Bent County where populations range 0-100 on 50 percent of plants. (Schweissing).

NEBRASKA - S. graminum continued to increase slowly, no significant damage observed or reported. In 234 Clay County sorghum fields, ranged 0-230 (average about 9) per plant. Averaged 142.5 per plant in one field. Only 3 winged forms taken in 4 yellow pan traps in Clay County. Most sorghum in county now in preboot stage. (Gary). In one Thayer County field, averaged about 100 per plant, with very light leaf stippling and reddening noted on most plants. Predators, particularly lady bugs (mostly adults) and green lacewings, increased in area. (Peters). Greenbug very light, about 5 percent of plants infested in fields observed near North Platte, Lincoln

County. (Campbell). SOUTH DAKOTA - Greenbug built up in sorghum checked in Charles Mix, Davison, Hanson, and Douglas Counties. Counts light with 1-2 colonies per plant. (Kantack).

POTATO LEAFHOPPER (Empoasca fabae) - MISSOURI - Ranged 35-300+ per sweep in alfalfa fields that were yellowing; mostly nymphs. (Munson). WISCONSIN - Very heavy in some sandy area alfalfa fields. Up to 50 per sweep noted in some fields in Sauk, Dane, and Columbia Couties. Yellowing obvious in uncut and second-growth fields. Ranged 1-2 per sweep in majority of second-growth fields; no yellowing. Nymphs in all stages constitute very high percentage of population in all alfalfa. (Wis. Ins. Sur.). OHIO - Severely damaged new alfalfa seedlings. Yellowed, stunted alfalfa stands noted in Franklin, Pickaway, Ross, Wayne, Medina, Knox, and Logan Counties. Probably present statewide. Recent hot weather provided ideal conditions for increased populations; ranged 2-7 per sweep. At least one per sweep noted in red clover stands; this is minimum population to cause economic injury. (Fox.). Damage to alfalfa expected as long as conditions hot and dry, until about first of September. (Flessel). Adults ranged 6-7 per lima bean plant in Columbus; no nymphs observed. (Fox). Infestations of this density and life stage should be noneconomic, most damage caused by immature feeding. Damage expected to occur for 4-6 weeks where no treatments applied. Injury to potatoes expected to peak first week in August. If left uncontrolled, up to 50 percent reduction possible. (Sleesman).

WEST VIRGINIA - E. fabae infestation 70 percent in 15 acres of alfalfa in Mason County. (Brooks). VIRGINIA - Late-instar nymphs extremely light in soybeans in Hanover, Westmoreland, Richmond, Essex, King William, and King and Queen Counties. Caused no economic damage. (Allen). MARYLAND - Adults and nymphs in most alfalfa in State. Counts continued noneconomic, ranged 1-10 per 20 sweeps in Frederick, Carroll, Montgomery, Talbot, Kent, Dorchester, and Prince Georges Counties. No yellowing to date. Alfalfa in central area into second cutting. (U. Md., Ent. Dept.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Common in alfalfa throughout southwestern and central counties. Up to 20 per sweep in rare fields; usually 1 or 2 per sweep. One or two per sweep noted in occasional pea field. (Wis. Ins. Sur.). WASHINGTON - Collected in flight July 9 at Yakima, Yakima County. This species rarely found in Yakima County. (Landis).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Heavy in tobacco in Charles, St. Marys, Calvert, and lower Prince Georges Counties. About 30 percent of acreage within 60 to 100-percent damage range. Controls applied in all areas. Damage heaviest of past 5 years. Larvae still difficult to control. (U. Md., Ent. Dept.). KENTUCKY - Caused some damage to most tobacco plots in Warren County. Controls applied. (Barnett, Driskill). GEORGIA - Light to moderate in late maturing tobacco in south-central area. (French).

TOBACCO HORNWORM (Manduca sexta) - KENTUCKY - Damaged tobacco in Ohio County. Foliar loss 5-10 percent to 16 percent of plants with feeding damage. In Hopkins County, 2 percent of plants showed feeding damage with 5 percent foliar loss. Less than one percent of plants in Hardin County had feeding damage. Damage also noted in Warren County. Treatments applied at most locations. (Barnett et al.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Pupation (about 5 percent) underway as far north as Johnson County in east-central district. Infestations in corn checked in Nemaha, Brown, and Doniphan Counties in northeast district ranged 4-24 percent, and 0-3 percent in Cloud, Republic, and Washington Counties in north-central district. Larvae mostly third and fourth instars. (Bell). MISSOURI - Percentage of corn with live larvae in central area ranged 2.9-7.8. One location in area had 28.7 percent of plants with active larvae and one in northwest had 12.6 percent of plants with live larvae. (Huggans). Pupation underway throughout northern areas. (Munson). NEBRASKA - Light first-generation feeding noted in 71 of 282 cornfields surveyed in Clay County. (Gary).

SOUTH DAKOTA - Surveys in southeastern area indicated O. nubilalis infestations less than 5 percent in cornfields examined. Third-stage larvae economic in 100-acre field near Letcher, Sanborn County; treatment expected. Heaviest "shotholing," 30 percent, found in Minnehaha County field. (Jones, Kantack). MINNESOTA - Infestations remain light; however, economic populations observed in isolated cornfields. Weather very good for hatching and larval growth in most areas. Corn growth good. Larval development well advanced in some cases; late fourth and fifth instars reported. Early second generation definite possibility; treatment will be difficult when needed. Heavy borer mortality reported in Waseca and Faribault Counties. (Minn. Pest Rpt.). WISCONSIN - Extremely variable from field to field; older, taller fields most affected. Up to 100 percent of plants infested in exceptional Juneau County fields; only 5 percent infestation noted in most fields. Between 10 and 30 percent of plants affected in some older sweet corn fields. Tunneling in midribs common, some boring into stalks apparent in advanced fields in extreme southern counties. All larval stages present, second and third instars predominate. Some larvae and new adults expected soon if current temperature trend continues. (Wis. Ins. Sur.).

ILLINOIS - O. nubilalis larvae averaged about one per 20 corn plants in 4 central district counties surveyed; 80+ percent of larvae fourth and fifth instar. (Ill. Ins. Rpt.). INDIANA - Adults, probably second summer generation, taken in trap in Tippecanoe County; pupae observed north and south of this point. Buildup of second generation can be expected through most of State; there will be plenty of susceptible corn available when spring generation begins ovipositing. Heavy populations reported from northeastern corner of State, where controls applied in several counties. (Hubner, Meyer). OHIO - Severe larval infestation noted in 150-acre planting containing 22,000 corn plants per acre in Mercer County. About 85-90 percent of plants damaged, several dissected plants hosted 2-6 larvae per plant. Plants 5.5-6 feet tall. Controls applied. (Eischen). First-generation larval feeding very heavy in Medina County, 94 percent of 4-acre planting damaged. (Thoburn). Lighter damage to corn noted in Pickaway, Marion, Crawford, Delaware, Erie, Huron, and Franklin Counties. (Fox). Second-generation adults expected to emerge in Wayne County near July 21. (Kings).

MARYLAND - Pupation of O. nubilalis underway in Baltimore, Harford, Howard, Montgomery, and Carroll Counties. Average damage levels for first brood ranged 20-40 percent in these counties. Second-

brood borers active on Eastern Shore, infestations of first and second-instar larvae light but expected to increase rapidly next 7 days. Ostrinia nubilalis first-brood adult emergence peaking in Wicomico, Worchester, Somerset, and Dorchester Counties. Damage light to moderate statewide; considered normal for time period. (U. Md., Ent. Dept.). DELAWARE - Adults increased greatly in blacklight traps in most areas of State; some counts 40+ per night. (Burbutis, Davis). KENTUCKY - Continued to damage corn; now mostly last instars to pupae. (Barnett).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - MISSOURI - Counts in southeast area showed 16-20 percent of plants infested in New Madrid County, and 60-70 percent of plants infested in Mississippi County area. Pupation began in these areas. (Houser).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Ranged 1-3 per plant in young corn in Jackson County. Light in sorghum in Craig and Ottawa Counties. (Okla. Coop. Sur.). INDIANA - Larvae in whorls damaged up to 5 percent of corn in some fields in Vermillion, Vanderburgh, and Posey Counties. (Huber, Matthew). KENTUCKY - Infested 8-10 percent of corn in various fields in Ohio County. (Barnett, Raney). WEST VIRGINIA - Infested 70 percent of cornstalks in one acre of 25-acre field in Jackson County. (Hacker).

CORN ROOTWORMS (Diabrotica spp.) - UTAH - D. virgifera (western corn rootworm) damaged corn roots at Providence, Cache County. (Roberts). SOUTH DAKOTA - Diabrotica spp. larvae ranged up to 94 per corn root system in untreated plots in research field near Garretson, Minnehaha County. In similar situation near Madison, Lake County, larvae ranged up to 87 per root system. Few pupae present, but most larvae in second and third instar. Species involved probably D. virgifera. (Jones). NEBRASKA - In 68 Clay County cornfields examined July 6, D. virgifera and D. longicornis (northern corn rootworm) averaged 0.6 per plant. Highest average count in single field 11.7 per plant. Pupation and adult emergence well underway. (Gary, Keith).

KANSAS - Adults of D. virgifera emerged in corn (3.5 feet to full tassel) as far north and west as Phillips County in north-central district and north to State line in northeast district. In northeast district, adults ranged 0-3.4 per plant (latter in Nemaha County and only field with serious root damage). In Cloud, Phillips, and Washington Counties, usually none found, but up to 0.8 per plant noted in Phillips County. Adults of D. longicornis noted in 2 cornfields in Nemaha County. (Bell). MISSOURI - D. virgifera adults observed and reported throughout northern areas. Counts in northwest area averaged 1 per plant. Adult emergence incomplete. (Munson).

ILLINOIS - One adult D. longicornis seen in Henderson County where pupation 20 percent. Pupation of D. longicornis and D. virgifera averaged 37 percent in Woodford County, 25 percent in Champaign County, with probable emergence in both counties. Some egg hatch still underway in these 3 counties. (Ill. Ins. Rpt.). INDIANA - D. longicornis adult taken in Pike County. (Meyer). Adults also observed, but not yet emerged, in Tippecanoe County. Two D. virgifera adults taken in Porter County. Adults observed still in the soil in Elkhart County. (Turpin).

NEW JERSEY - Diabrotica longicornis eggs hatched, many larvae fed on corn roots in fields near Pittstown, Bloomsbury, and Annandale in Hunterdon County. Although still too early to determine extent of injury, indications are there will be more damage to corn this season than in 1972. (Ins.-Dis. Newsltr.). ALABAMA - Larvae of D. undecimpunctata howardi (southern corn rootworm) destroyed 30+ percent of stalks in 6-acre field of young corn in Crenshaw County. (Handley, Farrar).

FLEA BEETLES - TENNESSEE - Heavy populations of Systena blanda (palestriped flea beetle) caused heavy to severe damage on late-planted, 2 to 4-inch corn and other crops in central area. No controls applied where damage observed. (Gordon). KENTUCKY - Chaetocnema pulicaria (corn flea beetle) continued to damage emerging or late-planted corn statewide. (Barnett).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Damaged grain sorghum in many counties in Uvalde County, south-central, Blacklands, and north-central areas. Economic in late blooming grain sorghum in Frio County. Increased significantly in most counties in south-central area. In some fields inspected in this area infestations averaged 20+ midges per head. Populations also readily found in most grain sorghum in Blacklands area. In north-central area, populations have not built up to damaging levels. During next 8-10 days populations should become sufficiently damaging to cause concern to local producers. (Bradshaw et al.). TENNESSEE - Adult swarms observed in late-planted milo and sorghum in western area. (Locke).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - NORTH DAKOTA - Averaged 300 per 100 sweeps in headed wheat in Grand Forks County. (Brandvik).

SAY STINK BUG (Chlorochora sayi) - COLORADO - Damaged wheat and barley in Moffat and Douglas Counties. (Hantsbarger).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - WISCONSIN - Adults averaged 3 per sweep in alfalfa, up to 18 per sweep in some fields. Larvae up to 4 per 10 sweeps in some second-growth alfalfa, average less than 1 per 10 sweeps. (Wis. Ins. Sur.). NORTH DAKOTA - Larvae continued to increase in dryland alfalfa. Average counts per 100 sweeps ranged from 300 June 5 to 6,800 June 27, decreased to 2,000 by July 2, increased to 8,000 by July 9, then decreased to 5,200 by July 11. (Knudsen). UTAH - Infestation heavier than normal for second alfalfa crop at Nephi area, Juab County. (Jones).

PEA APHID (Acyrthosiphon pisum) - IDAHO - Populations variable in Bonneville County alfalfa fields. Where predators absent, treatments will be needed soon. (Moss). UTAH - Moderate in some alfalfa in Nephi, Levan areas of Juab County and in Cache County. (Burtenshaw et al.). COLORADO - Ranged 0-6,000 per 100 sweeps in alfalfa in southeast area. (Schweissing). NEBRASKA - Damaged vetch in Antelope and Knox Counties during weeks ending June 24 and July 1. Most populations in area disappeared following intense heat and increased parasitism past few weeks. In 2 fields, stand losses estimated at 10 and 40 percent. (Koinzan, Keith).

SAY STINK BUG (Chlorochroa sayi) - NEVADA - Began to move into alfalfa and alfalfa with grain cover crops in Clark and Lincoln Counties. (Bechtel).

WESTERN YELLOW STRIPED ARMYWORM (Spodoptera praefica) - CALIFORNIA - Problem in alfalfa in many locations. Infestations vary considerably with location. Problem not as serious in Kern County as farther north in San Joaquin Valley. (Cal. Coop. Rpt.).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adults and larvae noneconomic in all fields east of Dorchester County. First second-generation adults of season active and laying eggs in Wicomico, Somerset, and Worcester Counties. Counts below 5 adults per 25 row feet. All larval instars found but populations light. (U. Md., Ent. Dept.). VIRGINIA - Adults and early instar larvae averaged less than 2 per row foot of soybeans in King and Queen, King William, Essex, Richmond, Westmoreland, and Hanover Counties. This not considered serious, but should be observed as populations may "explode" next few weeks when adults appear. (Allen).

BEAN LEAF BEETLE (Cerotoma trifurcata) - KENTUCKY - Completely defoliated 10 acres of 4 to 6-inch soybeans in Christian County. Larvae fed mainly on roots and stems. Treatments applied. Damage also noted in Ohio and Warren Counties. (Barnett, Kaney).

BLACK CUTWORM (Agrotis ipsilon) - MISSOURI - Infested soybeans planted in overflow or flooded areas throughout eastern sections; ranged 3-11 larvae per row foot. Larvae mostly full grown in southeast area. (Thomas, Houser). KENTUCKY - Destroyed 30-50 percent of 124 acres of soybeans in McCracken County. Treatments applied. (Barnett, Raney).

GREEN CLOVERWORM (Plathypena scabra) - KENTUCKY - Treatments applied to damaged soybeans in Warren and Todd Counties. (Barnett, Raney).

PAINTED LADY (Cynthia cardui) - IOWA - Light infestation of second-generation larvae fed on soybeans in Polk County. Eggs apparently laid on soybean leaves in fields where broadleaf weeds or thistles absent. (Iowa Ins. Sur.).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Light to heavy from south-central to southwest area. (French). ALABAMA - Larvae caused scattered damage throughout 9 southeastern peanut-growing counties. (Bond). OKLAHOMA - First of the season noted in Marlow area peanuts, Stephens County. (Okla. Coop. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NORTH CAROLINA - Spot infestations still reported in Northampton County area. Damage and populations subject to rapid increase should dry conditions become prevalent. (Long).

COTTON

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Square damage by weevils in older cotton ranged 15-60 percent in southern and central areas. First field generation of weevils emerged, damage expected to increase. Controls started in many fields. In northern area, damage in older cotton ranged 80-90 percent. Conditions spotty where square damage by overwintered weevils ranged up to 40-50 percent. First field generation weevils light in older cotton in Colbert, Limestone, and Cherokee Counties. (Smith et al.). TENNESSEE - Percent damaged squares ranged 1-12 in fields where sufficient squares present to make counts in western area. (Locke). NORTH CAROLINA - Percent weevil damaged squares decreased over Coastal Plain due to reduced number of overwintered weevils. Damage by first-generation weevils has not yet appeared. Treatment not warranted until new damage evident. (Worley).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - TENNESSEE - First-generation adults much heavier than usual on several crops, including cotton, in western area; some light damage usually expected on all infested crops except cotton. Pest currently heavy enough in many cotton fields to cause light to moderate damage to squares of all sizes and to blooms. Adults will feed in ovary of bloom, resulting in no fruiting. Some feeding on squares noted in all fields surveyed. Damage currently very light, but expected to increase. (Locke).

BOLLWORM (Heliothis zea) - NORTH CAROLINA - Eggs observed on terminals in scattered fields over Coastal Plain. Counts low in all areas. Inspection advisable weekly due to ability of pest to build up rapidly. (Bradley, Worley). TENNESSEE - Counts ranged 1-6 larvae and/or eggs per 100 terminals in western area. (Locke). ALABAMA - Larvae and eggs very light statewide. (McQueen).

TARNISHED PLANT BUG (Lygus lineolaris) - ALABAMA - Ranged 25-80 per 100 stalks in several thousand acres of cotton in western Madison County and most of Limestone County. Infestations heavier than usual in more than 500,000 acres of cotton statewide. Some controls underway in northern area. (McQueen).

MISCELLANEOUS FIELD CROPS

SUNFLOWER BEETLE (Zygogramma exclamationis) - NORTH DAKOTA - Larval damage evident in Fordville area of Grand Forks County. Ranged up to 50 larvae per sunflower plant with 100 percent of plants infested. (Brandvik).

PAINTED LADY (Cynthia cardui) - MINNESOTA - Infestations general in Red River Valley; however, very few if any sunflower fields required treatment; many chrysalides hanging from sunflower leaves and other plants. New adults expected to emerge soon and lay eggs for second generation. Little damage expected as plants will be beyond injury. (Minn. Pest Rpt.).

POTATOES, TOMATOES, PEPPERS

EUROPEAN CORN BORER (Ostrinia nubilalis) - VIRGINIA - Emergence of second-brood moths well underway, but not yet at peak. Damage to spring potatoes more severe than for any time during past 10 years. If conditions favorable, populations could be very heavy by fall in Accomack and Northampton Counties. (Hofmaster).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - VIRGINIA - Recent relatively low temperatures resulted in unusually large number of eggs deposited. Eggs hatched and second brood active. Much foliage injury could result to late potatoes in Accomack and Northampton Counties. (Hofmaster). OREGON - Adults heavy, damaged potatoes in Stanfield area, Umatilla County. Also noted on nightshade and garden cucumbers. (Humphrey).

GREEN PEACH APHID (Myzus persicae) - OREGON - Controls to be applied on potatoes in Joseph area, Wallowa County. (Humphrey). NEW JERSEY - Increased in many eggplant and pepper plantings. Winged aphids migrating. (Ins.-Dis. Newsltr.).

CUCURBITS

MELON APHID (Aphis gossypii) - MARYLAND - Heavily damaged 25-acre stand of cucumbers near Vienna, Dorchester County. Averaged 20 per leaf. Controls applied. First picking underway. No infestations found in surrounding fields and farms. (U. Md., Ent. Dept.).

SQUASH BUG (Anasa tristis) - NEVADA - Adults and all nymphal instars heavy on squash in Moapa Valley, Clark County. (Barclay et al.).

GENERAL VEGETABLES

ONION THRIPS (Thrips tabaci) - NEBRASKA - Ranged 25-30 per plant in 2 small onion plantings near Schuyler, Colfax County. Up to 20 percent stand loss in one field. (Koinzan).

ONION MAGGOT (Hylemya antiqua) - MICHIGAN - Adult activity very heavy around State. Growers should apply controls on 3 to 5-day schedule to maintain fly control before egg deposition. (Cress).

DECIDUOUS FRUITS AND NUTS

EUROPEAN RED MITE (Panonychus ulmi) - OHIO - Recent central area high temperatures ideal for increased populations. In untreated Fairfield County orchard, 25 per leaf noted on Red Delicious fruit. Caused bronzing of leaves. Damaging populations present for about 14 days. (Holdsworth). Slight bronzing noted before treatments in Wayne County. (Hall). MICHIGAN - Hot, humid weather this period stimulated development; counts ranged 7-10+ per leaf in numerous orchards. Egg laying also underway. (Thompson).

APPLE MAGGOT (Rhagoletis pomonella) - MICHIGAN - Catches in most pheromone traps decreased to zero; remaining traps occasionally with 1-2 flies. Catches still moderate in northern counties. Unlike most years, visible separation of first and second emergence seemed apparent. General shortage of wild host fruit and abandoned apple trees may result in abnormally heavy second-brood infestations in commercial orchards this season. (Thompson).

PEARSLUG (Caliroa cerasi) - UTAH - Damage generally increased in sweet and sour cherry orchards and in inadequately sprayed pear orchards at Payson, Utah County, and north on Wasatch Front through Box Elder County. (Knowlton). Severe in Cache County cherry orchards. (Burtenshaw).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Activity moderate to heavy in Uvalde County pecans. Very light activity reported in Nueces Canyon area. Continued problem in Waco, McLennan County, as well as in north-central area. Light damage to pecan foliage reported from Ward and Ector County areas. (Stewart et al.).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Moths emerged in Uvalde County, egg laying underway. Parasitic wasps emerged from larvae; up to 70 percent parasitism noted. Second-generation casebearers damaged few pecans throughout much of south-central area; however, no serious damage observed to date. Activity reported from Bell and Hill Counties. Damage by second-generation larvae light to moderate on isolated trees in Monahans area. (Stewart et al.).

HICKORY SHUCKWORM (Laspeyresia caryana) - TENNESSEE - Heavily damaged fruit of hickory and pecan in western area. (Locke).

YELLOW PECAN APHIDS (Monellia spp.) - TEXAS - Heavy in pecan trees in Uvalde County. Very light in Nueces Canyon area. Increased on pecan throughout Blacklands area. Caused problems with heavy excretions of honeydew in Bell and McLennan Counties. Activity increased on pecans in Pecos, Reeves, Ward, Winkler, Upton, and Glasscock Counties; ranged 1-20 per compound leaf on most trees. (Stewart et al.).

PECAN PHYLLOXERA (Phylloxera devastatrix) - TENNESSEE - Infestations on pecans, where present, worst ever observed or reported in western area. (Locke).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Adult emergence in walnut orchards increased in most areas of State. Growers placing traps in orchards to monitor populations to schedule treatment. Due to season, peak emergence difficult to predict. (Cal. Coop. Rpt.).

PECAN LEAFROLL MITE (Eriophyes caryae) - OKLAHOMA - Heaviest infestations in several years on pecan trees in Stillwater area, Payne County. Some leaves completely rolled up and dying. (Okla. Coop. Sur.).

SMALL FRUITS

BLUEBERRY MAGGOT (Rhagoletis mendax) - NORTH CAROLINA - Adult catches heavier than in 1972 in blueberry-growing area. Peak emergence occurred week of June 19 with 60 adults taken; this is more than total catch of 1972. (Sorenson).

FOREST AND SHADE TREES

AN OLETHREUTID MOTH (Rhyacionia bushnelli) - CALIFORNIA - Moths quite widespread in San Diego County, mostly on Monterey pine. Christmas-tree farm first infested in 1971 now 100 percent infested; populations range 1-32 larvae per tip. Farm used for research on biology and control of this pest. (Cal. Coop. Rpt.).

COOLEY SPRUCE GALL APHID (Adelges cooleyi) - IDAHO - Alates emerged from this seasons galls on spruce trees in Bannock and Bonneville Counties, July 10-12. (Portman).

ELM LEAF BEETLE (Pyrrhalta luteola) - GEORGIA - Defoliation heavy on elm trees in Spalding and Bibb Counties. (Price). KENTUCKY - Continued to defoliate elms Statewide. Heavy damage noted in Ohio County. (Barnett). NEVADA - Caused light to moderate damage to elms at Overton, Clark County. This is first occurrence of this pest in this area of Clark County. (Barclay et al.).

BIRCH LEAFMINER (Fenusa pusilla) - WISCONSIN - Second generation seems as heavy and damaging as first generation. Heavy in Door County, most other counties report continuing damage. (Wis. Ins. Sur.).

PERIODICAL CICADA (Magicicada septendecim) - WISCONSIN - Adults reported to have died out. Flagging of oak twigs noted in most areas where heavy adult populations occurred. Heavy flagging noted on both sides of Wisconsin River in Grant and Crawford Counties. Adults very numerous and damaging in Richland County apple orchard. Controls attempted at this site. (Wis. Ins. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 263 cases reported in continental U.S. during period July 1-7 as follows: Texas 50, New Mexico 46, Arizona 160, California 7. Total of 1,067 cases confirmed from Mexico. Number of sterile flies released this period totaled 131,081,400 as follows: Texas 88,533,000; New Mexico 9,837,000; Arizona 31,181,400; California 1,530,000. Total of 71,439,000 sterile flies released in Mexico. (Anim. Health).

FACE FLY (Musca autumnalis) - PENNSYLVANIA - Averaged 15 per head and 25 per animal on 20 Holstein and Friesian cows in Jamestown, Mercer County. (Ode). GEORGIA - Heavy on cattle in Spalding County. (Dupree). KENTUCKY - Average per head on cattle by county: Warren 15.2, Ohio 17.3, Grayson 13.5, Fayette 2.0. Adults averaged 25 per head on horses in Fayette County. (Barnett, Knapp). INDIANA - Adults averaged 3.8 per face on 5 bulls and 5 per face on 9 steers

in a Tippecanoe County herd. (Christensen). IOWA - Ranged 10-120 (average 35) per animal on untreated beef cattle in 5 Story County herds. (Iowa, Ins. Sur.). MISSOURI - Ranged 5-25 (average 18) per head on De Kalb County herd. Ranged 10-75 on cattle in Atchison and Nodaway Counties; ranged 40-55 (average 45) per head on 15 horses. (Brown). NORTH DAKOTA - Ranged 10-44 (average 18) per head on calves in Richland County. Pinkeye evident in herd. (Brandvik).

OKLAHOMA - Face fly collected on or near cattle in Osage, Washington, Craig, and Mayes Counties and on horses in Ottawa County. These are new county records. Ranged up to 10 per face on cattle in these areas with reports indicating decline from peak about 14 days ago. Averaged 20 per face on two horses in Ottawa County. (Okla. Coop. Sur.). CALIFORNIA - Populations very heavy past weeks. Recent high temperatures caused temporary reduction of numbers. Populations and annoyance heavy in mountain areas. Face counts vary 10-50 per face by county. Pinkeye high all season. Calves most affected and, unless treated immediately, may go blind. Horses in northern coastal area and northern counties severely annoyed. Several reports of humans annoyed. Heavy annoyance also common on deer. Dust bags reported ineffective, possibly indicating resistance to pesticides developing. (Cal. Coop. Rpt.).

HORN FLY (Haematobia irritans) - GEORGIA - Heavy on cattle in Spalding County. (Dupree). TENNESSEE - Ranged 0-50 per head on beef herd in Henderson County. (Turpen). IOWA - Ranged 25-400 (average 80) per animal on untreated beef cattle in five Story County herds. (Iowa Ins. Sur.). NEBRASKA - Ranged 400-500 per head on untreated range cattle in Lincoln and Keith Counties. (Campbell). OKLAHOMA - Ranged 200-250 per head on cattle checked in Payne County. Moderate to heavy in Craig, Nowata, Ottawa, Mayes, Comanche, Murray, Garvin, and Coal Counties. (Okla. Coop. Sur.). TEXAS - Moderate to heavy on cattle and sheep in Mason, Sterling, Callahan, McCulloch, and Schleicher Counties. Light on cattle across most of Trans-Pecos area, but moderate to heavy in Ector and Upton Counties. Light on sheep and goats in Upton County. (McWhorter, Neeb). UTAH - Annoyed untreated cattle in Millard, Weber, Box Elder, and Cache Counties. (Knowlton).

MOSQUITOES - WISCONSIN - Still heavy in parts of Dane, Jefferson, Marinette, and Richland Counties. Most areas report moderate and declining numbers. Heavy rains in parts of State may have created some temporary breeding pools; no significant increase in numbers should be anticipated. (Wis. Ins. Sur.). MINNESOTA - Coquillettidia perturbans population peaked in Metropolitan Mosquito Control District and probably in other areas of State. Bite collections week ending July 7 revealed 91 C. perturbans compared to 40 Aedes vexans. C. perturbans comprised 72 percent of light trap catch, A. vexans 24 percent. (Minn. Pest Rpt.). UTAH - Annoying to very annoying for man and livestock throughout most of Cache County. (Knowlton, Burtenshaw).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Ranged 5-6 per leg on feedlot animals in Keith and Lincoln Counties. Decreased as breeding areas dried out. (Campbell). OKLAHOMA - Declined to less than 1 per head on untreated dairy cattle in Payne County. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - OKLAHOMA - Averaged 6 per Scudder grid in untreated barns in Payne County. Very heavy in barns and around feed troughs in Craig and Mayes Counties. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

A CARABID BEETLE (Calosoma frigidum) - WEST VIRGINIA - Adults averaged 3 per black locust tree and fed on larvae of Alsophila pometaria (fall cankerworm) in Grant County. Collected June 20, 1973, by A.R. Miller. Determined by J.D. Hacker. This is a new State record. (Hacker).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - NORTH DAKOTA - Infestations lighter than 1972 in Pembina, Walsh, and Grand Forks Counties. Scattered infestations evident in Backoo, Mountain, and Inkster areas. Ranged up to 15 per square yard in margins (average 4) and up to 15 (average 2) within fields. Melanoplus bivittatus, M. sanguinipes, and M. femurrubrum dominant. Some crop damage evident in Drayton and Bowesmont area in Pembina County. (Grasser). SOUTH DAKOTA - M. bivittatus, M. sanguinipes, M. differentialis, and M. femurrubrum ranged 1-8 per square yard in fields and 1-10 per square yard along roadsides and field margins in Corson and Dewey Counties. Development mostly second through fifth instar. Counts slightly heavier in southeastern Corson County. (Burge). Grasshoppers very heavy in eastern Lyman County; adults moving from long grass to pastures. (Wonnenberg).

NEBRASKA - Melanoplus spp. ranged 8-12 per square yard in field margins and roadside ditches in Knox and Antelope Counties. Ranged third instar to adult. (Koinzan, Keith). COLORADO - Grasshoppers averaged 11 per square yard on 150,000 acres in Weld County. Cooperative control program will start this period. Averaged 11 grasshoppers per square yard on 100,000 acres in Crowley County. No control program planned. (Kail). WYOMING - Spray programs planned for infestations in Crook, Weston, Johnson, and Sheridan Counties. (Patch et al.). MONTANA - Averaged 20 per square yard on 6,000 acres of rangeland at Augusta, Teton County, and 75 per square yard on 700 acres at Basin, Jefferson County. (Pratt).

WASHINGTON - First Melanoplus sanguinipes mating of season noted July 8 in Douglas County. At same time newly hatched nymphs in economic numbers observed at Odessa and Creston in Lincoln County. Cooperative control still in progress as clean up sprays applied around perimeters of large treatment blocks in Lincoln, Adams, and Whitman Counties. Cooperative control program on 110,000 acres of Bureau of Indian Affairs and deeded land scheduled for treatment July 12 on Colville Indian Reservation, Okanogan County. (PPQ). OREGON - Treatments completed in 26,000-acre Klamath Marsh Project, Klamath County. Treatment of 22,000-acre grasshopper infestation near Durkee, Baker County, delayed due to windy conditions. (Penrose). NEVADA - Melanoplus bivittatus, M. sanguinipes, and a slantfaced species averaged 12 per square yard in 50 acres of native meadow at Birch Creek, Lander County. (Giles) Grasshoppers, mainly M. sanguinipes, heavy in home gardens at Caliente, Lincoln County. (Miller). Heavy populations of Trimerotropis pallidipennis attracted to lights in southern Clark County with some movement into yards. (Bechtel).

MORMON CRICKET (Anabrus simplex) - MONTANA - Averaged 5 per square yard on 4,000 acres of rangeland and 8 per square yard on another 1,600 acres in Ovando area of Powell County. (Pratt).

GRASSBUGS - UTAH - Labops utahenis adults discolored planted range grass and Irbisia spp. and few L. utahensis caused moderate discoloring of giant ryegrass and other grasses in parts of Franklin Basin, Cache County. (Knowlton).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - Populations "exploded" in eastern part of State this year. About one million acres heavily defoliated. Damage observed from east of Indiantown Gap through Pike County. (Pa. For. Pest Rpt., June).

JAPANESE BEETLE (Popillia japonica) - DELAWARE - Adults very numerous on grape, willow, hazelnut, raspberry, and various garden flowers in New Castle County. (Burbutis, Davis). NORTH CAROLINA - Damage in excess of 10 percent seen in 4 of 40 soybean fields in Harnett, Johnston, Sampson, and Duplin Counties. Population will decrease after mid-July; defoliation near threshold level of 40 percent will occur in very few fields prior to bloom. (Hunt).

DETECTION

New United States Record - A CLICK BEETLE (Melanotus dichrous Erichson) - MARYLAND - Fourteen adults of this elaterid, including both sexes, collected in blacklight trap adjacent to Pier No. 1 on Clinton Street in Canton pier area of Baltimore City. Blacklight trap operated and specimens collected during period June 24, 1969, through July 17, 1970, by E.J. Ford, Jr. Determined by E.C. Becker, T.J. Spilman, and Christine Van Hayek. This is a new United States record. There is no information available regarding larvae or biology of this species which occurs in southern Europe. This would indicate that M. dichrous is of no economic importance there. (Ford).

New State Records - MAY BEETLES (Phyllophaga spp.) - MARYLAND - The following species collected in blacklight traps by E.J. Ford, Jr., and determined by M.W. Sanderson are new State records: P. angulata at Hebbville, Baltimore County, July 15, 1961; P. foxii near Shelltown, Somerset County, May 10, 1969, and at Marion, Somerset County, June 15, 1971; P. knochi at Martinak State Park, Caroline County, June 5, 1967. The specimens are in the APHIS collection at Baltimore. (Ford).

AN ARMORED SCALE (Aulacaspis rosarum) - HAWAII - (p. 473). A CARABID BEETLE (Calosoma frigidum) WEST VIRGINIA - Grant County. (p. 471).

New County Records - FACE FLY (Musca autumnalis) OKLAHOMA - Osage, Washington, Craig, Mayes, Ottawa (p. 470).

CORRECTIONS

CEIR 23(24):383 - "BLACK SWALLOWTAIL (Papilio ajax) ..." should read "A BLACK SWALLOWTAIL (Papilio ajax) ..."

CEIR 23(27):425 - TOBACCO FLEA BEETLE "... Adults averaged 3 per 100 plants ..." should read "... Adults averaged one per 3 plants ..." (Barnett et al.).

CEIR 23(27):432 - "A SOFT SCALE (Pseudophillipia quaintancii) ..." should read "A SOFT SCALE (Pseudophilippia quaintancii) ..."

New State Record - All specimens of an armored scale from Hawaii in the Agricultural Research Service, USDA, collection formerly identified as Aulacaspis rosae (Bouche) have been determined to be Aulacaspis rosarum Borchsenius by S. Nakahara. Examination of Aulacaspis slide specimens in the University of Hawaii collection by J.W. Beardsley disclosed that all specimens from hosts of the family Rosaceae are A. rosarum, not A. rosae as previously identified. It appears that records of A. rosae in the State are based on misidentification and that the species probably does not occur here. A. rosarum was described from specimens collected in China (Borchsenius, 1958. Ent. Obozr. 37(1):165), and also occurs in Japan, the Philippines, Java, New Guinea, Australia, New Zealand, and Fiji. (Beardsley).

Fruits and Nuts - Recovery of 200+ coconut trees at Kahe Point, Oahu, which sustained damage by COCONUT LEAFROLLER (Hedylepta blackburni) during most of 1972 has been slow. Only youngest 1-3 fronds now remain free of damage. No larvae observed, but moderate numbers of hymenopterous and dipterous cocoons as well as H. blackburni cocoons present in fluted, damaged pinnae. (Kawamura).

Forest and Shade Trees - Single 5-foot Pinus sp. sapling at Polipoli, Kula Forest Reserve, Maui, found infested by an ADELGID (Pineus pini). This is second incidence of infestation by this species in forest areas on this island. Survey and control efforts continued in residential areas. (Miyahira).

Beneficial Insects - Parasitism of field collected larvae of Plutella xylostella (diamondback moth) from various hosts at Pearl City and Waimanalo, Oahu, by an ICHNEUMON WASP (Diadegma insularis) averaged 57 and 75 percent, respectively. (Otsuka).

WEATHER OF THE WEEK ENDING JULY 16

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: While most of the Nation averaged within 3 degrees of normal the entire week, daily temperatures stood far from normal. Early week was hot, and many record highs were chalked up, while late week numerous record lows got on the books. Pandora, Ohio, tied its record low Thursday and its record high Friday. Thunderstorm activity was common east of the Rockies. Two major cold fronts passed through early and late in the week.

PRECIPITATION: The Northwest and northwestern Plains continued mostly dry, intensifying the drought. Also without rain: Most of California, Nevada, and scattered areas in States eastward. In the Nation's eastern half, scattered areas had 2 inches or more of rain, while large areas got 0.80 to 2 inches. Monday, a Low over the Dakotas and its front caused violent weather: The eastern Dakotas were drenched--Sioux Falls, South Dakota, received 1.73 inches of rain accompanied by pea-sized hail in 45 minutes. The storm system moved east during the day and intensified. Madison, Wisconsin, received 1.91 inches of rain in one hour, 1.25 inches of that falling in just 25 minutes. Also, 58-mph winds blew over trees and wires as 3/4-inch hail pelted the city. Much of central

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																								
Kelso 6/28-7/4			BL						1	11									19					
Marianna 7/5,8,9			BL						1	10									30					
ARIZONA (County)																								
Maricopa 7/2-8			BL	60	2	24				39								47		32		4	4	
FLORIDA																								
Gainesville 7/6-12			BL		1			1	3										1		1	4		
ILLINOIS (County)																								
Ogle 7/3-9			2BL	105													3	66	2063					
IOWA																								
Beaconsfield 6/29-7/5			BL	68			3											10	470					
Gilbert 7/5			BL	22			8											4	361					
KANSAS																								
Goodland 7/5			BL							1								3	12					
Great Bend 7/4-7			BL			4				47								7	135					
KENTUCKY																								
Lexington 7/10-12			BL	9												1		8	10			1		
Princeton 7/8-11			BL	13												16		3	6			19	2	
MISSISSIPPI																								
Stoneville 7/6-12			2BL	18				4	5	28								3	75			361	2	
MISSOURI																								
Portageville 7/6-12			BL	13						19							4	1	22		19	167		
NEBRASKA																								
North Platte 7/5-12			BL	12															24					
Scotts Bluff 7/5-12			BL	36		12												18	65					
NEW HAMPSHIRE																								
Lee 7/8			BL		3												2		2		4			

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I, M = incandescent, O = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege committalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege rantalis (beet webworm)	Mamestra configurata (tomato hornworm)	Mamestra quinquesculata (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstripped armyworm)	Trichoplusia ni (cabbage looper)	Crops
NORTH DAKOTA																								
Bismark 7/4,7,12			BL											13					10					
Fargo 7/9,11,12			BL																18					
OHIO																								
Wooster 7/6-12			BL	438														9	567					
OREGON (Counties)																								
Linn 7/9-11			BL	4																				
Marion 7/9-11			2BL	5														5						
PENNSYLVANIA (Districts)																								
Central 6/29-7/10			BL	49											1		1		163		2			
Northeast 6/29-7/10			BL	5											1		3		17					
SOUTH DAKOTA																								
Brookings 7/6,9-12			BL	22			216										440	86					3	
TENNESSEE (Counties)																								
Lake 7/9-12			BL	3													1	1	7		31	11		
Madison 7/9-13			BL	1															6		59	8		
WEST VIRGINIA (Counties)																								
Kanawha 7/10			BL	12	1												2	1					4	
Monroe 7/9			BL	13	3												2	1						
WISCONSIN																								
Lancaster 7/3-8			BL	1															18					
Mazomanie 7/2-11			BL															2	1					

Iowa received 1 inch or more. Scattered thunderstorms and showers persisted throughout most of the East and South on Tuesday. Overnight, tornadoes touched down at Huron, South Dakota, near Denver, Colorado, and Alamagordo, New Mexico, while 70-mph winds buffeted Sidney, Nebraska. Over 1 inch of rain fell in northeast Texas, Arkansas, and the Southeast. Significant Tuesday morning rains fell at Wichita, Kansas, (1.64 inches); Oklahoma City, Oklahoma, (1.06 inches); and at Peoria, Illinois, (0.54 inch). By afternoon 1.67 inches had fallen at Dayton, Ohio, and 1.64 inches at Louisville, Kentucky. In the East, a thunderstorm drowned Annandale, Virginia, in 4 inches of rain that mostly fell within one hour's time. Winds blew down trees, interrupted electric service, and flooded highways. Wednesday brought sunny skies to most of the Nation because a High extended from the southern Rockies to the Great Lakes. While the East remained cloudy, and New England had rain, Texas was drenched with thunderstorms. Dallas and Fort Worth got 2 inches in 24 hours. Later Wednesday, a front trailing from a Canadian Low passed through Montana, the Dakotas, and Minnesota. Livingston, Montana, had 80 mph winds. International Falls, Minnesota, got 1.37 inches of rain, while Baudette got heavy hail. Thursday, numerous storms raged west of the Continental Divide. Phoenix, Arizona, got 0.50 inch of driving rain with 70 mph winds. Gusty winds blew dust throughout Arizona, reducing visibility and causing rockslides. Friday stayed mostly a quiet sunny day; however, Harlan County Dam in south-central Nebraska recorded a 6.50 inches of rain. Over the weekend thunderstorm activity was concentrated along a cold front. By late Sunday this front had almost reached the East coast.

TEMPERATURE: Most States had temperatures within 3 degrees of normal. Some western desert areas averaged 3 degrees above normal for the week, while most of Texas, neighboring States, and parts of the Plains averaged 3 degrees below. Monday morning temperatures stood in the 50's over the northeastern Great Lakes and most West coast points, in the 70's from New England to Florida and over the Nation's east half. Several points on the gulf and in the Plains started the week in the 80's. Later in the day it turned hot from the Southwest, above 100 degrees, to Atlantic City, New Jersey, whose airport had a record high, 93 degrees. Tuesday turned hot, too. Record highs were felt again at the Atlantic City airport, 92 degrees, and Great Falls, Montana, hit 105 degrees, a record. The desert Southwest baked in heat--from 115 degrees to 118 degrees. But midweek relief came to the Nation: A High brought cool air to the Nation's midsection and cool Pacific air invaded the Northwest. Thursday morning record lows included Bradford, Pennsylvania, 33 degrees, Baltimore, Maryland, 54 degrees, El Paso, Texas, 61 degrees. At Cleveland, Ohio, the mercury fell to the lowest in a century, 48 degrees. By Friday the Pacific air spread over the northern Plains and upper Mississippi Valley and temperatures at midday were lowered 10 degrees to 15 degrees, as compared with Thursday. A rapid warming, however, occurred: At Pandora, Ohio, a record-tying 95 degrees was recorded, after a record-equaling low on Thursday, 51 degrees. Over the weekend, the East stayed warm, while a cold front moved across the Plains. The Texas High Plains and Panhandle areas recorded record lows. North Platte, Nebraska, set a new low, 48 degrees, as did Denver, Colorado, 48 degrees, and Pueblo, Colorado, 51 degrees, breaking a record extending back to 1891.

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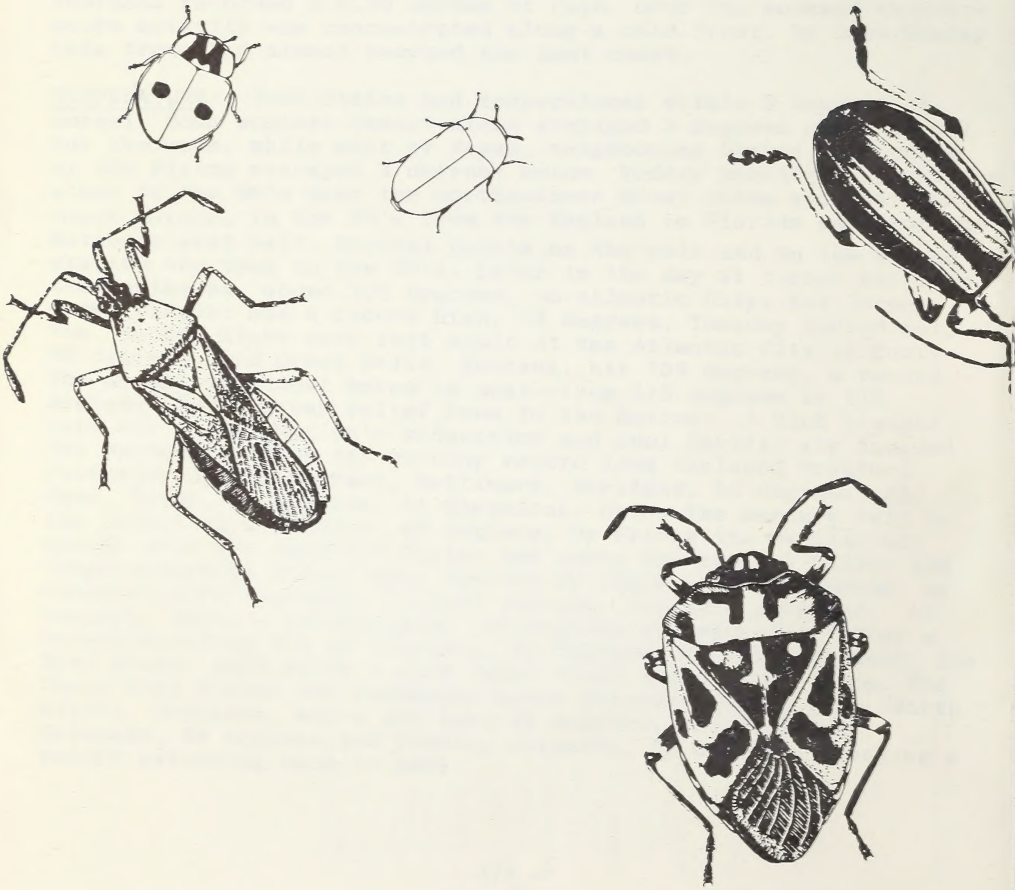
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